

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 1 511 046 A1

(12)

EUROPEAN PATENT APPLICATION

published in accordance with Art. 158(3) EPC

(43) Date of publication:
02.03.2005 Bulletin 2005/09

(51) Int Cl.7: **H01F 41/02**, C23C 26/00,
B05C 11/08, B05C 13/02

(21) Application number: **03812349.3**

(86) International application number:
PCT/JP2003/015268

(22) Date of filing: **28.11.2003**

(87) International publication number:
WO 2004/051678 (17.06.2004 Gazette 2004/25)

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PT RO SE SI SK TR
Designated Extension States:
AL LT LV MK

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(30) Priority: **29.11.2002 JP 2002348841**
11.09.2003 JP 2003319207

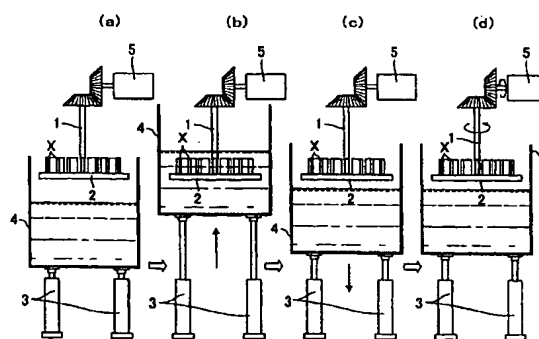
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(54) **METHOD FOR PRODUCING CORROSION-RESISTANT RARE EARTH BASED PERMANENT MAGNET, CORROSION-RESISTANT RARE EARTH BASED PERMANENT MAGNET, DIP SPIN COATING METHOD FOR WORK PIECE, AND METHOD FOR FORMING COATING FILM ON WORK PIECE**

(57) The objectives of the present invention are to provide a stable and simple method for producing a rare earth metal-based permanent magnet having on the surface thereof a corrosion-resistant film containing fine zinc particles dispersed therein, a corrosion-resistant rare earth metal-based permanent magnet produced by the method, a dip spin coating method being suitable for forming a coating film on thin type work pieces having various shapes, and a method for forming a coating film on a work piece. A method for producing a corrosion-resistant rare earth metal-based permanent magnet of the present invention, **characterized in that** it comprises providing an aqueous treating fluid, which contains a hydrolysis polymerization product of alkyl silicate and fine zinc particles having an average particle diameter of 1 μm to 50 μm and has a pH value of 6 to 8 and a viscosity of 1000 cP or less, applying the fluid on the surface of a rare earth metal-based permanent magnet, and subjecting the resultant magnet to a heat treatment at 250°C to 400°C, to thereby form a corrosion-resistant film containing fine zinc particles dispersed therein.

Fig. 1



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